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PTO/SB/05 (1/98)

09/633869
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08/07/00

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No. 0756-2100

First Inventor or Application Identifier: Hongyong ZHANG et al.

Title: METHOD FOR LASER-PROCESSING SEMICONDUCTOR
DEVICE

Express Mail Label No.

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO:

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Box Patent Application
Washington, DC 20231

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original, and a duplicate for fee processing)
2. ☒ Specification Total Pages [27]
(preferred arrangement set forth below)
 - Descriptive title of the Invention
 - Cross References to Related Applications
 - Statement Regarding Fed sponsored R & D
 - Reference to Microfiche Appendix
 - Background of the Invention
 - Brief Summary of the Invention
 - Brief Description of the Drawings (if filed)
 - Detailed Description
 - Claim(s)
 - Abstract of the Disclosure
3. ☒ Drawing(s) (35 USC 113) Total Sheets [9]
4. ☒ Oath or Declaration Total Pages []
 - a. ☐ Newly executed (original or copy)
 - b. ☒ Copy from a prior application (37 CFR 1.63(d))
(for continuation/divisional with Box 17 completed)
[Note Box 5 below]
 - i. ☐ DELETION OF INVENTOR(S)
Signed statement attached deleting
inventor(s) named in the prior application,
see 37 CFR 1.63(d)(2) and 1.33(b).
5. ☐ Incorporation By Reference (useable if Box 4b is checked)
The entire disclosure of the prior application, from which a
copy of the oath or declaration is supplied under Box 4b,
is considered to be part of the disclosure of the
accompanying application and is hereby incorporated by
reference therein.

6. ☐ Microfiche Computer Program (Appendix)
7. Nucleotide and/or Amino Acid Sequence Submission
(if applicable, all necessary)
 - a. ☐ Computer Readable Copy
 - b. ☐ Paper Copy (identical to computer copy)
 - c. ☐ Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

8. ☐ Assignment Papers (cover sheet & document(s))
9. ☐ 37 CFR 3.73(b) Statement ☐ Power of Attorney
(when there is an assignee)
10. ☐ English Translation Document (if applicable)
11. ☒ Information Disclosure Statement ☐ Copies of IDS
(IDS)/PTO-1449 Citations
12. ☒ Preliminary Amendment
13. ☒ Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)
14. ☐ *Small Entity ☐ Statement filed in prior application,
Statement(s) Status still proper and desired
(PTO/SB/09-12)
15. ☐ Certified Copy of Priority Document(s)
(if foreign priority is claimed)
16. ☒ Other: Request for Interference

*A new statement is required to be entitled to pay small entity fees,
except where one has been filed in a prior application and is being
relied upon.

17. If a **CONTINUING APPLICATION**, check appropriate box, and supply the requisite information below and in a preliminary amendment:
☐ Continuation ☒ Divisional ☐ Continuation-in-part (CIP) of prior application No. 09/236,620 filed January 26,
1999; which itself is a Divisional of Serial No. 08/641,695 filed May 2, 1996 (now U.S. Patent No. 6,096,581 issued 08/01/00);
 which is a Continuation of Serial No. 08/400,867 filed March 8, 1995, abandoned
 Prior application information: Examiner: H. Nguyen Group/Art Unit: 2812

18. CORRESPONDENCE ADDRESS

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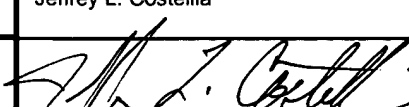
Name: Jeffrey L. Costellia
 Firm: NIXON PEABODY LLP
 Address: 8180 Greensboro Drive, Suite 800
 City: McLean State: VA Zip Code: 22102
 Country: U.S.A. Telephone (703) 790-9110 FAX (703) 883-0370

Name (Print/Type) Jeffrey L. Costellia Registration No. (Attorney/Agent) 35,483

Signature Jeffrey L. Costellia Date: 8/7/00

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

| FEE TRANSMITTAL | | Complete If Known | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------------|---|------------------------|-------------------------|-----------|--|---------------|--------|--------------------|--------|---------|------------------------|------|--------|--------|-----------------------------------|--|---------|---------|--------------------------|--|--------|--------|---|--|--------|-------|---|--|--|--|--|--|--|--|
| <i>Patent fees are subject to annual revision on October 1. These are the fees effective October 1, 1997. Small Entity payments must be supported by a small entity statement, otherwise large entity fees must be paid. See Forms PTO/SB/09-12.</i> | | Application Number | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Filing Date | | August 7, 2000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | First Named Inventor | | Hongyong ZHANG et al. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Examiner Name | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Group Art Unit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL AMOUNT OF PAYMENT | | 1,056.00 | Attorney Docket Number | | 0756-2100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| METHOD OF PAYMENT (check one) | | FEE CALCULATION (continued) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge indicated fees and credit any over payments to: Deposit Account No. 19-2380 Deposit Account Name: SIXBEY, FRIEDMAN, LEEDOM & FERGUSON, PC <input checked="" type="checkbox"/> Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17 <input type="checkbox"/> Charge the Issue Fee Set in 37 CFR 1.18 at the Mailing of the Notice of Allowance 2. <input checked="" type="checkbox"/> Payment Enclosed: <input checked="" type="checkbox"/> Check <input type="checkbox"/> Money Order <input type="checkbox"/> Other | | 3. ADDITIONAL FEES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Large Entity Small Entity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Fee Code | Fee (\$) | Fee Code | Fee (\$) | Fee Description | Fee Paid | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 105 | 130 | 205 | 65 | Surcharge-late filing fee or oath | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 127 | 50 | 227 | 25 | Surcharge-late provisional filing fee or cover sheet | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 139 | 130 | 139 | 130 | Non-English specification | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 147 | 2,520 | 147 | 2,520 | For filing a request for reexamination | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 112 | 920* | 112 | 920* | Requesting publication of SIR prior to Examiner action | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 113 | 1,840* | 113 | 1,840* | Requesting publication of SIR after Examiner action | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 115 | 110 | 215 | 55 | Ext for reply within first month | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 116 | 380 | 216 | 190 | Ext for reply within second mth | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 117 | 870 | 217 | 435 | Ext for reply within third mth | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 118 | 1,360 | 218 | 680 | Ext for reply within fourth mth | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 128 | 1,850 | 228 | 925 | Ext for reply within fifth month | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 119 | 300 | 219 | 150 | Notice of Appeal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 120 | 300 | 220 | 150 | Filing brief in support of appeal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 121 | 260 | 221 | 130 | Request for Oral Hearing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 138 | 1,510 | 138 | 1,510 | Petition to institute public use proceeding | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 140 | 110 | 240 | 55 | Petition to revive-unavoidable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 141 | 1,210 | 241 | 605 | Petition to revive-unintentional | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 142 | 1,210 | 242 | 605 | Utility issue fee (or reissue) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 143 | 430 | 243 | 215 | Design issue fee | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 144 | 580 | 244 | 290 | Plant issue fee | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 122 | 130 | 122 | 130 | Petitions to the Commissioner | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 123 | 50 | 123 | 50 | Petitions related to provisional applications | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 126 | 240 | 126 | 240 | Submission of IDS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 581 | 40 | 581 | 40 | Recording each patent assignment per property (times number of properties) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 146 | 690 | 246 | 345 | Filing a submission after final rejection (37 CFR 1.129(a)) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 149 | 690 | 249 | 345 | For each additional invention to be examined (37 CFR 1.129(b)) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | Other _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | Other _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | *Reduced by Basic Filing Fee Paid | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUBTOTAL (1) | | | | | | SUBTOTAL (3) | \$ _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| \$690.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. EXTRA CLAIM FEES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="0" style="width: 100%;"> <tr> <td style="text-align: right;">Total Claims</td> <td style="text-align: right;">36</td> <td style="text-align: right;">- 20** =</td> <td style="text-align: right;">16</td> <td style="text-align: right;">X 18</td> <td style="text-align: right;">=</td> <td style="text-align: right;">288.00</td> </tr> <tr> <td style="text-align: right;">Independent Claims</td> <td style="text-align: right;">4</td> <td style="text-align: right;">- 3** =</td> <td style="text-align: right;">1</td> <td style="text-align: right;">X 78</td> <td style="text-align: right;">=</td> <td style="text-align: right;">78.00</td> </tr> <tr> <td style="text-align: right;">Multiple Dependent Claims</td> <td colspan="5"></td> <td style="text-align: right;">=</td> </tr> </table> | | Total Claims | 36 | - 20** = | 16 | X 18 | = | 288.00 | Independent Claims | 4 | - 3** = | 1 | X 78 | = | 78.00 | Multiple Dependent Claims | | | | | | = | | | | | | | | | | | | | |
| Total Claims | 36 | - 20** = | 16 | X 18 | = | 288.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Independent Claims | 4 | - 3** = | 1 | X 78 | = | 78.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Dependent Claims | | | | | | = | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **or number previously paid, if greater, For Reissues, see below <table border="0" style="width: 100%;"> <tr> <td style="text-align: right;">Large Entity</td> <td style="text-align: right;">Small Entity</td> <td style="text-align: right;">Fee Description</td> <td style="text-align: right;">Fee Paid</td> </tr> <tr> <td style="text-align: right;">Fee Code (\$)</td> <td style="text-align: right;">Fee Code (\$)</td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">103 18</td> <td style="text-align: right;">203 9</td> <td>Claims in excess of 20</td> <td></td> </tr> <tr> <td style="text-align: right;">102 78</td> <td style="text-align: right;">202 39</td> <td>Independent claims in excess of 3</td> <td></td> </tr> <tr> <td style="text-align: right;">104 260</td> <td style="text-align: right;">204 130</td> <td>Multiple dependent claim</td> <td></td> </tr> <tr> <td style="text-align: right;">109 78</td> <td style="text-align: right;">209 39</td> <td>**Reissue independent claims over original patent</td> <td></td> </tr> <tr> <td style="text-align: right;">110 18</td> <td style="text-align: right;">210 9</td> <td>**Reissue claims in excess of 20 and over original patent</td> <td></td> </tr> </table> | | Large Entity | Small Entity | Fee Description | Fee Paid | Fee Code (\$) | Fee Code (\$) | | | 103 18 | 203 9 | Claims in excess of 20 | | 102 78 | 202 39 | Independent claims in excess of 3 | | 104 260 | 204 130 | Multiple dependent claim | | 109 78 | 209 39 | **Reissue independent claims over original patent | | 110 18 | 210 9 | **Reissue claims in excess of 20 and over original patent | | | | | | | |
| Large Entity | Small Entity | Fee Description | Fee Paid | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fee Code (\$) | Fee Code (\$) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 103 18 | 203 9 | Claims in excess of 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 102 78 | 202 39 | Independent claims in excess of 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 104 260 | 204 130 | Multiple dependent claim | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 109 78 | 209 39 | **Reissue independent claims over original patent | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110 18 | 210 9 | **Reissue claims in excess of 20 and over original patent | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUBTOTAL (2) | | | | | | -366.00 - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUBMITTED BY | | Complete (if applicable) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Typed or Printed Name | | Jeffrey L. Costellia | | Reg. Number | 35,483 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Signature | |  | | Date | 08/07/00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Deposit Account User ID | 19-2380 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



| | | |
|-----------------------------|---|------------------------------|
| In re Application of |) | Group Art Unit: not assigned |
| |) | |
| Hongyong ZHANG et al. |) | Examiner: not assigned |
| |) | |
| Serial No.: |) | |
| Divisional of |) | |
| U.S. Patent Application |) | |
| Serial No. 09/236,620 |) | |
| |) | |
| Filed: |) | |
| August 7, 2000 |) | |
| |) | |
| For: |) | |
| METHOD FOR LASER-PROCESSING |) | |
| SEMICONDUCTOR DEVICE |) | |

REQUEST FOR INTERFERENCE UNDER 37 C.F.R. §1.607

Assistant Commissioner for Patents
Washington, D. C. 20231

Sir:

Applicants hereby request to have an interference declared between the present application and U.S. Patent No. 5,943,593. Applicants hereby propose a single count as follows:

A method for fabricating a semiconductor device having at least one thin film transistor comprising a channel region and a gate electrode, comprising the steps of:

forming a semiconductor film comprising an amorphous silicon over a substrate; and

irradiating said semiconductor film with a laser light having a rectangular irradiation area while relatively moving said laser light along a scan direction,

wherein said scan direction is parallel to said channel region.

The count is a copy of claim 1 in the present application. Claims 1-14, 16-25 and 27-36 of the present application correspond to the proposed count. Claims 15 and 26 of the present invention application do not correspond to the proposed count. Claims 31-36 of the present application correspond exactly to claims 1-3 and 5-7, respectively, of U.S. Patent No. 5,943,593. Claims 1-8 of U.S. Patent No. 5,943,593 correspond to the proposed count.

Applicants' application is entitled to priority based on Japanese Patent Application No. 6-665952 filed March 9, 1994 and Japanese Patent Application No. 6-124172 filed May 13, 1994. Thus, Applicants' application predates the earliest priority date of November 10, 1995 for the '593 patent.

Applicants have attached a claim chart indicating where support may be found in the present application for the currently pending claims.

Applicants respectfully request that the Examiner declare an interference between the present application and U.S. Patent No. 5,943,593. Should the Examiner believe that anything further is desirable in order to place the application into better condition for interference the Examiner invited to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,

NIXON PEABODY LLP



Jeffrey L. Costellia
Registration No. 35,483

Attached: Claim Chart

JLC:JEH/dkt

Attorney Docket No.: 0756-2100

NIXON PEABODY LLP
8180 Greensboro Drive, Suite 800
McLean, Virginia 22102
Telephone (703) 790-9110

| <u>PATENT CLAIMS</u> | <u>SUPPORT IN APPLICATION FOR COPIED CLAIMS</u> |
|--|---|
| 1. A method for fabricating a semiconductor device having at least one thin film transistor comprising a channel region and a gate electrode, comprising the steps of: | |
| forming a semiconductor film comprising an amorphous silicon over a substrate; and | Page 9, lines 10-11. |
| irradiating said semiconductor film with a laser light having a rectangular irradiation area while relatively moving said laser light along a scan direction, | Page 7, lines 23-27; Page 10, lines 7-25 and Figs. 2B and 2D. |
| wherein said scan direction is parallel to said channel region. | Page 10, lines 7-25 and Figs. 2B and 2D. |
| 2. The method of claim 1, wherein said laser light is irradiated from an upper side of said gate electrode. | Page 9, lines 10-27; Page 19, lines 3-6 and Fig. 10E. |
| 3. The method of claim 1, further comprising a step of heating said semiconductor film. | Page 9, lines 15-17. |
| 4. The method of claim 3, wherein said semiconductor film further comprises a metal. | Page 9, lines 12-14. |
| 5. The method of claim 1, wherein said thin film transistor is a top-gate type thin film transistor. | Page 9, lines 10-29. |
| 6. The method of claim 1, wherein said laser light is a pulsed excimer laser. | Page 10, lines 10-17. |
| 7. The method of claim 6, wherein said step of irradiating comprises pulsing said excimer laser ten times. | Page 10, lines 15-17. |
| 8. The method of claim 1, wherein said thin film transistor is used as one of a column driver and a scan driver. | Page 9, lines 32 - Page 10, line 3. |

| | |
|---|---|
| 9. The method of claim 1, further comprising the step of introducing a dopant impurity to said semiconductor film before said irradiating step. | Page 9, lines 24-27. |
| 10 A method for fabricating a thin film transistor device having a polycrystalline semiconductor thin film to form a channel region, and a gate electrode which intersects the channel region, comprising the steps of: | |
| providing a structure comprising a semiconductor thin film separated by a gate insulating layer from a gate electrode on an insulating substrate; and | Page 9, lines 10-23. |
| irradiating the semiconductor thin film with a laser light having a rectangular irradiation area while relatively moving said laser light along a scan direction which is parallel to the channel region. | Page 10, lines 7-25 and Figs. 2B and 2D. |
| 11. The method of claim 10, wherein said gate electrode is irradiated on an upper side. | Page 9, lines 10-27; Page 19, lines 3-6 and Fig. 10E. |
| 12. The method of claim 10, wherein said irradiating step comprises moving the laser light. | Page 10, lines 7-15. |
| 13. The method of claim 10, wherein said irradiating step comprises partially overlapping irradiation of the laser light. | Page 10, lines 10-17. |
| 14. The method of claim 10, further comprising the step of heating said semiconductor thin film. | Page 9, lines 15-17. |
| 15. The method of claim 14, wherein said semiconductor thin film comprises a metal. | Page 9, lines 12-14. |
| 16. The method of claim 10, wherein said thin film transistor is top-gate type thin film transistor. | Page 9, lines 10-29. |
| 17. The method of claim 10, wherein said laser light is a pulsed excimer laser. | Page 10, lines 10-17. |
| 18 The method of claim 17, wherein said step of irradiating comprises pulsing said excimer laser ten times. | Page 10, lines 15-17. |

| | |
|---|--|
| 19. The method of claim 10, wherein said thin film transistor is used as one of a column driver and a scan driver. | Page 9, line 32 - Page 10, line 3. |
| 20. The method of claim 10, further comprising the step introducing a dopant impurity to said semiconductor thin film before said irradiating step. | Page 9, lines 24-27. |
| 21. A method for fabricating a thin film transistor device having a polycrystalline semiconductor thin film to form a channel region, and a gate electrode which intersects the channel region, comprising the steps of: | |
| providing a structure comprising a semiconductor thin film separated by a gate insulating layer from a gate electrode on an insulating substrate; | Page 9, lines 10-23. |
| introducing a dopant impurity to said semiconductor thin film; and | Page 9, lines 24-27. |
| irradiating the semiconductor thin film with a laser light having a rectangular irradiation area while relatively moving said laser light along a scan direction which is parallel to the channel region in order to activate said dopant impurity. | Page 7, lines 23-27; Page 10, lines 17-25 and Figs. 2B and 2D. |
| 22. The method of claim 21, wherein said gate electrode is irradiated on an upper side. | Page 9, lines 10-27; Page 19, lines 3-6 and Fig. 10E. |
| 23. The method of claim 21, wherein said irradiating step comprises moving the laser light. | Page 10, lines 7-15. |
| 24. The method of claim 21, wherein said irradiating step comprises partially overlapping the laser light. | Page 10, lines 10-17. |
| 25. The method of claim 21, further comprising the step of heating said semiconductor thin film. | Page 9, lines 15-17. |
| 26. The method of claim 25, wherein said semiconductor thin film comprises a metal. | Page 9, lines 12-14. |

| | |
|--|---|
| 27. The method of claim 21, wherein said thin film transistor is a top-gate type thin film transistor. | Page 9, lines 10-29. |
| 28. The method of claim 21, wherein said laser light is pulsed excimer laser. | Page 10, lines 10-17. |
| 29. The method of claim 28, wherein said step of irradiating comprises pulsing said excimer laser ten times. | Page 10, lines 15-17. |
| 30. The method of claim 21, wherein said thin film transistor is used as one of a column driver and a scan driver. | Page 9, line 32 - Page 10, line 3. |
| 31. A method for fabricating a thin film transistor device having a polycrystalline semiconductor thin film to form a channel region, and a gate electrode which intersects the channel region, comprising the steps of: | |
| forming a structure comprising an amorphous semiconductor thin film separated by a gate insulating layer from a gate electrode on an insulating substrate; and | Page 9, lines 10-23. |
| irradiating the amorphous semiconductor thin film with an energy beam having a rectangular irradiation area to convert the amorphous semiconductor thin film into a polycrystalline semiconductor thin film while relatively moving said energy beam along a scan direction which is orthogonal to the gate electrode and is parallel to the channel region. | Page 7, lines 23-37; Page 10, lines 7-25 and Figs. 2B and 2D. |
| 32. A method according to claim 31, wherein said irradiation step is a process for irradiating an amorphous semiconductor thin film to form a polycrystalline semiconductor thin film of the thin film transistor connected to a pixel electrode formed on the insulating substrate. | Page 9, line 33 - Page 10, line 13; Page 19, lines 29-30. |

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| 33. A method according to claim 31, wherein said irradiation step is a process for irradiating an amorphous semiconductor thin film to form a polycrystalline semiconductor thin film of the thin film transistor comprised of peripheral driving circuit for an active matrix array. | Page 9, line 33 - Page 10, line 13; Page 19, lines 29-30. |
| 34. A method according to claim 31, wherein said irradiation step is performed by moving the energy beam. | Page 10, lines 7-15. |
| 35. A method according to 31, wherein said irradiation step is performed by partially overlapping irradiation of energy beam. | Page 10, lines 10-17. |
| 36. A method according to claim 31, further comprising steps of forming source and drain regions which comprise doping an impurity to the polycrystalline semiconductor thin film and activating the doped impurity by irradiating an energy beam. | Page 9, lines 24-27. |